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A N  
E S S A Y

ON THE

Autumnal Dysentery.

By a PHYSICIAN.



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T O

Dr. JOHN RUTHERFORD,

PROFESSOR of the Theory and Practice of MEDICINE

IN THE

UNIVERSITY of EDINBURGH.

S I R,

**T**H E success I have had in treating the epidemic Dyfentery, which prevailed in this city and neighbourhood in the autumnal seasons of 1758, and 1759, I look upon as an obligation to communicate to the public what experience hath taught me, and what I conceive may be for their benefit on that subject. Nor am I intimidated, in this publication, by the censures which ignorant, quackish, or interested men may pass upon my essay ; while you, Sir, indulge me the liberty of inscribing it to your name. It is to you, and to such as you, that I appeal. To you ! the chaste interpreters and assistants of nature, who have candor to excuse, and judgment to correct my faults ; who possess all the mysteries,  
and

and the merit of the healing art, untainted by the meannesses which too often disgrace it : Envy, detraction, avarice, pride of local distinctions, and the ridiculous importance of mere seniority. But I ought not, Sir, in this address, even to mention dispositions so unworthy of a liberal education and profession, and so much the reverse of your own amiable character. Let me rather profit of the opportunity given me, to express, in this public manner, the deep sense I must ever retain of the many favours with which you have honoured me, and the sincere respect with which I am,

S I R,

Your most obliged,

And most obedient

Humble Servant,

Newcastle upon Tyne,  
March 25, 1760.

ANDREW WILSON.



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A N  
E S S A Y  
O N T H E  
A U T U M N A L D Y S E N T E R Y.

**A**S the Dyſentery prevailed exceedingly here\* in autumn 1758, and as it recurred again laſt ſeaſon, not here only, but in many other neighbouring places, with ſeemingly greater violence; I apprehend it will be neither impertinent nor uſeleſs to give as brief and as plain an account as I can of the nature, ſeat, cauſe and cure of that Diſeaſe. Some ſmall ſucceſs being aſcribed to my practice upon the firſt appearance of the diſorder, in the former of theſe ſeaſons, it gave me an opportunity of attending many in it ſince, which I endeavoured to improve for acquiring as precise an idea as I cou'd attain of its determinate character, and of the moſt rational and ſucceſſful method of cure. I hope the laudableneſs

\* Newcastle upon Tyne.

of my design, if I have not totally missed of it, will excuse any imperfections in the execution.

The Bloody Flux is an epidemic, febrile, putrescent, painful inflammation, primarily affecting the inner coat, but gradually extending itself thro' the whole substance, or all the coats of the great guts, especially of the lowest or Rectum. This inflammation is seldom communicated in any remarkable degree to the small guts: but the stomach and liver, tho' they rarely or never partake of that inflammation which is the characteristic of this distemper, are nevertheless generally affected by it in a very particular manner.

This disease is called the Bloody Flux, because more or less blood is generally, tho' not always, mixed with the slimy fetid stools which are discharged during the course of it. The bloody discharge may be attributed to different causes, according to the degree, malignancy and continuance of the disease; such as, the vehemence of the inflammation, stretching the vessels opening into the cavity of the intestines, and straining red blood thro' them, which does not naturally pass that length undissolved; the acrimony of the humours which are discharged into these guts during the inflammation, fretting and corroding the blood vessels; or, when there is an actual suppuration, which is not uncommon, more of the blood vessels are thereby dissolved.

During

During the increase and height of this distemper, it is very improperly called a Flux. A proper Flux or Diarrhea is a constant flow of immoderately liquid, but otherwise natural stools, dissolved by too great an irritation upon, or too great a relaxation of, the vessels destined for mollifying the fæces and lubricating the passages by their humours; by which means they are disposed to dismiss a superfluous quantity of them. But in the Dyfentery the passage of the natural discharges is resisted, and their consistence is often increased to such a degree, that when they are urged along by the assistance of purgatives, they are excluded in unnaturally hard and dry little lumps or balls. This leading symptom of the disease, which I do not remember to have been attended to, I shall endeavour to explain afterwards.

That the Dyfentery is an epidemic distemper is evident from its recurring periodically at a certain season, namely, during the harvest quarter. In the end of August and in the month of September, while in fine clear weather (which is the most infectious) the days are almost as hot as at Midsummer, and the evenings and mornings grow then remarkably colder than they are a month later in the season. The nights are then likewise frequently foggy, and the weather, when it is not clear, is often very turbulent and stormy.



The season of the year, the state of the blood, and the seat of the disease, all conspire to give it a tendency to putrescency. The blood is so much rarified by the preceding heat of summer, in contagious autumns, as to acquire a greater degree of solution then, than the fluids are subject to at other times. It is on this account that autumnal diseases, in general, do not bear bleeding so well as the diseases of the other seasons do: However violent the symptoms of any febrile disease then is, the blood is never so fizy as it wou'd be under the same circumstances at another season; neither is the crassamentum, or red part of the blood, so firm. Again, no inflammation in membranous parts produces so benign a matter, when it comes to suppuration, as it does in other parts of the body. The particular seat likewise of this disease subjects the matter separated by it, whether suppurated or not, to greater heat and alteration by ferment, so that it sooner acquires a putrid taint there than almost any where else.

There are many inflammations both external and internal which come on by gradual obstruction, without any leading febrile symptom; tho' a symptomatic heat and fever attends every inflammation of any consequence: but in this disease, as in the Pleurisy, Peripneumony, acute Rheumatism, &c. the first attack of local pain and inflammation is ushered in by the common symptoms

toms of a fever. Lassitude, coldness, shivering or trembling, succeeded by febrile heat, drought, &c. precede or accompany the first access of pain : and gripings in the lower belly, and frequently also in the back opposite to the windings of the colon, are soon followed by slimy, bloody, fetid unnatural dejections by stool. This observation renders it not altogether groundless to have some respect to a crisis in the course of this disease ; and indeed, tho' some other symptoms, such as Diarrhea, Hiccup, &c. which are rather superinduced as consequences of the original disease, may run out to a considerable length of time, yet I have rarely observed in persons who recover, that the proper dysenteric complaints and stools continue with obstinacy, and unmixed with natural fæces, beyond the fourteenth or fifteenth day, unless the ulceration has been very great, the villous coat much abraded, or the disease unskilfully treated.

An inflammation or load of humours falling upon any surface naturally destined for a constant regular secretion, occasions a seemingly increased, but vitiated and inspissated derivation of matter from that part. A seemingly increased secretion, I say ; for it is doubtful whether the discharge is really increased or not ; the natural secretion being more mild and liquid, is also more apt to be reabsorbed again, or exhaled, and consequently it  
makes



makes a less sensible figure, tho' probably it is really greater, than those diseased secretions do. For example, we see how viscid and how superfluous a quantity of mucus is discharged from the membranes of the nose during a common cold, tho' in fact a greater quantity of humidity is separated in health, which makes a much more inconsiderable figure, being mostly evaporated in effluvia. The case is quite parallel in the beginning of this disease while yet there is no actual suppuration, and in many there never is any; the villous coat of the lowest great guts being obstructed and inflamed, it constantly separates a vitiated, glarey humour, instead of that mild moisture which naturally bedews that cavity. The obstruction of the regular passage of the fæces occasions these slimy dejections to appear still more in quantity, for all the moisture destined to mollify them is collected, inspissated, and forced away by itself: indeed it becomes soon so tenacious by the inflamed heat of the parts, that when natural stools are urged along, that morbid stuff is too glarey to incorporate with them, and therefore comes off in considerable quantities by itself. This constant slimy discharge from an inflamed part allotted for such a constant secretion is the plain reason why inflammations never swell those organs to such a degree and magnitude as they frequently do external parts and viscera which discharge their secre-

tions

tions by canals: the diseased guts are nevertheless always thicker in their substance than in the natural state, as has been found upon dissection \*. It is plain, however, from the symptoms, that the villous coat is the primary seat of the Disease; yields a favourable prognostic, and which I have frequently found confirmed by experience, that when the disease is early taken notice of, and properly treated, it is easily removed, at least its future violence and danger are checked.

No inflammation is without some pain, though several of the internal viscera are endowed with but a small degree of sensibility: but the pain which arises from the inflammation which constitutes this disease is of a very excruciating and complicated nature; which yet does not arise so much from the acuteness of the local pain as from an almost constant forcible painful nifus impressed upon the parts in immediate connection with the seat of the Inflammation. The windings of the Colon are affected with such violent griping, and constant wringings, as are ordinarily felt during the operation of drastic purges not properly corrected; the seat of the inflammation itself is afflicted with a constant painful pressure upon it, partly from the violent action of its own muscular fibres, and partly from the sympathetic contraction of all the muscles which act in connection with it: this

\* See Dr. Pringle, Diseases of the Army.



pressure is sometimes so intolerable that I have frequently heard female patients compare it to those violent risings excited in child-bearing. There is another no less afflicting and uninterrupted source of pain than either of these; the inflammation reaching almost from its first invasion to the very extremity of the Anus, the Sphincter is thereby kept in a constant spasmodic contraction, and is so tightened upon the inflamed parts, which it is bound round, that it occasions very great anguish; which is still heightened by the dryness of the parts within the action of the Sphincter: for the constant moisture upon the surface of internal inflammations is a great alleviation of the pain they would otherwise cause. This last species of dysenteric pain is well known to those who are afflicted with the Hemorrhoides, particularly the Cæci. It is this painful affection which induces that tenesmus so inseparable from the Dysentery.

The singular aptitude and particular destination of the small guts, beyond any other part of the alimentary canal, for absorption, renders them less liable to fall into the inflammatory state of the lower guts in this disease. As the small guts are principally appointed for taking up the chylified aliments, they are therefore far more abundantly stored with chylous and other absorbent vessels than with excretories. The facility

lity and expeditiousness with which absorption is performed in them, renders their ultimate arterial vessels far less liable to obstruction. For the same reason, when any inflammatory obstruction does happen there, as in the Cholera, Iliac Passion, &c. their vehemence and career is much greater, and the danger more imminent and instantaneous; whereas it is much more slow and less acute, tho' often not less dangerous, in the great or lower guts. There is, indeed, an obstruction of another kind, which the small guts are liable to; namely, that of the Meseraic Glands, by which the Chyle is vitiated, robbed of its glandular concoction and acquisitions, and at last its passage is gradually stopped; but that obstruction belongs to, and is the cause of, another system of diseases which have no connection with the present subject. Another reason, why these bowels are not so subject to the obstruction and inflammation which characterise this disease, is the fine, liquified, rare state in which the aliments pass along this division of the chylopoetic Viscera: It is never much loaded with any collective quantity of those parts of the Injesta which are indigestible, and to be thrown off by stool. The rarity of the aliments there is so great, until they approach the lower end of the Ilium, that one considerable portion of that tube has obtained the name of the Jejunum, because of the very inconsiderable figure



our food always makes in that stage of its progress along the canal.

This immunity of the small guts, from any sensible degree of that febrile inflammation which constitutes the distemper we treat of, renders it not so obvious how the stomach and bile should be so immediately and so sensibly affected by it, which lie still more remote from, and are seemingly less connected with the seat of the disease, at the upper end of that long canal; by which medium one would think they must be drawn into sympathy. This together with the inflamed, aphthous, and even ulcerated state of the fauces, frequently to be met with in advanced stages of the most violent Dyfenteries, has made some conclude that the inflammation has been propagated from end to end of the canal; but the acute nature of any inflammation, either in the small guts or in the stomach, convince us, that cannot be the case. To explain this phenomenon, therefore, it is necessary to observe, that in most febrile disorders of any violence, the stomach having a very intimate connection and sympathy with the head and heart, by means of its abundance of exceedingly sensible nerves, particularly that delicate plexus about its upper orifice, is often violently disordered when the other bowels are not sensibly affected. For this reason, some whimsical Physiologists, in former times, enthroned Archeus at the upper orifice of



the stomach, like Ariadne in the centre of her web; to make a rally from his garrison when necessary, and raise tumults in the stomach, for the safety of the general œconomy, and the expelling of its enemies. Again, when I said that the small guts did rarely partake of this disorder, it was limited only to that inflammation which characterises the Dysentery for the propulsive power of forcing along the Chyle and its recrements, or the peristaltic motion, being greatly weakened by this inflammation (to be more particularly noticed afterwards) and sometimes even reversed, this of itself not being attended with much local pain, discovers itself only by its effects upon the stomach, for the above mentioned reason of its extreme sensibility. But a little attention to anatomy will convince every person of skill, that there is still a more immediate cause than any of these, by which the influence of this distemper is directly transmitted to the liver and stomach. The bile is an humour which, sooner than any in the body, is susceptible of a putrid taint. All the vitiated matter, which is reabsorbed after it is discharged by the disease into the lower guts, is carried directly into the inferior meseraic or internal Hemorrhoidal Vein, and from thence, by the Vena Portarum, into the liver. From this tainted blood it is that the liver secretes its bile: And this is the true reason, why the bile, upon dissection of such as die

of this disease, is always found in a vitiated state, when frequently the small guts are little altered from their natural state, further than being unduly inflated with elastic effluvia. It is no wonder then that from this cause solely, tho' there existed no other, the stomach should be constantly in a sickly state during the course of this disease. It is observable, that both the stools of dysenteric patients, and what is thrown up by vomit, are frequently bilious of different degrees of dyes darker than the natural colour of the bile.

There is one observation which seems to argue, that the corrupted state of the bile should rather be ranked among the causes than among the effects of this disease. It is, that when the Dysentery is epidemic, it is not uncommon for people who escape the Dysentery itself to have their stools altered from their natural colour to sometimes a greenish hue, as if they had eaten much herbs, sometimes of a clay colour, and sometimes quite blackish, as if they had eaten a quantity of blood. But as diseases arising from the irritation of the bile in the *Primæ Viæ*, generally manifest themselves by acute pains in the stomach and small guts, as witness the learned Dr. Huxham's accurate history of the Devonshire Cholera, &c. and as these discoloured passages frequently happen to people in the epidemic season of this disease, without any sensible uneasiness, it seems to argue that there is a vice  
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in the secretion, that the bile has lost some of its saponaceous quality, and is become more effete as to its virtue of changing and being changed by the aliments into good Chyle, which is not inconsistent with its being more putrescent : It seems likewise to indicate an alteration in the venous blood carried into the liver from the great guts by some degree of stagnation and vitiation there, tho' it has not arrived at an inflammatory height.

### *Of the Cause of the Dysentery.*

**T**HIS is an enquiry which has excited the curiosity of many ; and peoples conjectures about the cause of the Dysentery are very various. The vulgar notion is, that it is produced by the abuse of summer and autumnal fruits, or by crude Chyle generated from the excessive use of flatulent roots, particularly potatoes, which are rendered so common of late by their easy and quick propagation. But I cannot acquiesce in either of these causes, because in fact almost all vegetable food, as it is ascescent, rather repels than promotes any disorder which tends to putrescency. An abuse of luscious sweet fruits may sometimes prove the proper cause of a Diarrhea, but scarcely of a Dysentery, otherwise than as a Diarrhea may be the immediate occasion of

exciting a latent predisposition to the Dyfentery. A surfeit of very sharp or very cold fruits will immediately produce a very dangerous Cholic or iliac Passion; their coldness immediately shutting the orifices of the vessels, both imbibing and excretory, which open into the stomach and small guts; by which means the ascent of the Chyle is stopped, and the ultimate arterial vessels become first obstructed and then inflamed, so that the Chyle can neither recover its passage, nor the excretories unload themselves into the cavity. Here matters arise to a critical situation all at once, and a decision of the issue in death or recovery frequently depends on a few hours: But we have no evidence nor ground of presumption, that cooling vegetable juices, when taken into the blood, dispose it to any kind of inflammation or febrile disorder.

Again, when people attribute this, or any other disease, to the nature of the season or weather, they generally found their presumption upon two mistakes: First, in imagining it is owing to some secret venomous or infectious effluvia in the air, conveyed from thence into the blood; and secondly, in apprehending that diseases, impressed by the air, are merely the effect of the season in which they appear.

In order then to ascertain the nature and cause of this disease a little more precisely, let us make



two observations. The first, that, generally speaking, the topical diseases, which are most epidemic in the spring, are disorders or obstructions of the breast, and of those parts which are more immediately connected with the organs of respiration; colds, coughs, pleurifies, peripneumonies, pleuro-peripneumonies, &c. whereas the topical diseases in autumn are generally those of the chylopoetic viscera, such as cholics, choleras, diarrheas, dysenteries, &c.

The second observation is, that all spring diseases are of an inflammatory nature, with a remarkably firm and fizy Crassamentum of the blood: For this reason, vernal diseases bear large and reiterated evacuations with advantage, for most part, both to the spirits, and to the resolution of the disease. On the contrary, in autumnal diseases, especially after very hot summers, the texture of the red blood is more lax, and tending to dissolution: If any fizziness appears in it at all, the pellicle is thin, of a dark blue, or appears here and there only in streaks upon the surface; but as frequently it exhibites no appearance of pellicle at all, being florid and soft upon the surface, blackish below, and tending to dissolve at the bottom, like a sediment in the serum. Even the fevers which are not topical, and agues in the spring, are attended with fizy blood; whereas those of autumn are much less, if at all so; and  
both



both the fevers and agues of the latter season are tainted with a kind of malignancy not to be observed in spring diseases.

Here then are two leading phenomena presented to us, wherein vernal and autumnal epidemic diseases differ; one respecting their seat, the other the state of the fluids.

As to the former; in winter the fluids are more condensed; their heat is then properly innate, preserved by, and proportioned to, the progressive motion of the blood; the circulation is more vigorous; the solids are better braced; the pores of the skin are more contracted; and the perspiration is not so large: In proportion to the decrease of the perspiration, there is an increased secretion by the urinary passages and the vessels of the intestines, the stools are larger and more dissolved; digestion is performed more cleverly, and fresh repairs of food are demanded in larger quantity, and by a more craving appetite.

The reverse of all this happens in summer; the fluids become more expanded and relaxed in their structure; they acquire an increased degree of intestine motion from the heat of the season; their progressive motion grows more sluggish; the pores of the skin are more relaxed and patulous, and the perspiration of course is greater; the solids are less vigorous and elastic; the secretions by the urinary passages and *primæ viæ* are abated;

abated ; and the action of the intestines upon their contents is more inert.

Nature habituating our bodies to these changes, it becomes a part of our constitution to obtemperate them.

For a further illustration, I shall take the liberty to divide the body into three surfaces, a distinction very necessary upon this subject, and abundantly natural and obvious when it is made. First, the external surface of the skin, which I have observed undergoes very sensible variations in relation to its perspiration ; secondly, the surface of the lungs, trachea, mouth and nose, with the cavities belonging to it. This surface is even superior in extent to the surface of the skin : To it also the air has regular access by respiration, and from it is constantly exhaled a large quantity of perspirable effluvia. Thirdly, the surface of the intestines, to which no air has access, save so much as is carried down with the aliments. This surface also is plentifully irrigated with moisture from its excretories, which is all disposed of in diluting the Chyle and its recrements, lubricating the surface of the canal these pass along, or by reabsorption into imbibing venous Capillaries.

In the spring, when all nature becomes more animated, our fluids grow more active, volatile, and inflated in that degree which cherishes the spirits without relaxing the solids : The circulation

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also



also is encreased in its course towards the perspiratory pores on the surface of the body, and of the lungs, with the other appendages of that continuation.

Tho' this is the general tendency and effect of the spring season, changing from cold to hot, yet both the spring and autumn, being in a manner the crises of our extremes of cold and hot, they are frequently very turbulent and unequal, and have the extremes of both solstices many times in such immediate succession, as exposes our bodies much to hurtful impressions by such sudden changes. The weather then is often a successive jumble of hot and cold, wet and dry, tempest and calm. These seasons vibrate like the needle before it arrives at the fixing point, or like the scales of a ballance before they poize themselves. However, it is to be observed, that each equinox partakes predominantly of the solstice preceding it : It is on this account, that our bodies are then so subject to sudden obstructions, and to epidemic disorders of course.

The two surfaces of the lungs and intestines being to the surface of the skin, in a manner like two seconds to a principal, assisting and relieving it, in accommodating its perspiration to the seasons ; whenever any sudden change gives a damp to the perspiration, from our exterior surface in the spring, the current is turned upon the other  
per-

perspiratory surface, and the renifus is immediately felt there. The fluids then encreasing in their mobility and disposition, to exhale where they can escape, do not so readily, upon a check of cutaneous perspiration, fall back upon that internal surface from which the air is excluded. And this encreasing heat and activity of the fluids in spring, is the reason why we feel cold more sensibly then than in the rigour of winter.

In autumn again, as all the above circumstances are reversed, the blood beginning to retreat towards the internal surface and the kidneys, and its defecations encreasing by these excretions, any obstruction of perspiration then recoils directly upon the intestines. This idea of the origin and cause of the seat of the Dyfentery seems also to argue, I confess, that, for the same reasons, the kidneys and urinary passages should be subject to autumnal obstructions and inflammations ; which yet I cannot take upon me to assert from sufficient observation. I have, indeed, observed of late, that several persons subject to gravelish complaints had very severe paroxisms of them in autumn ; as also that, when the Dyfentery was epidemic, Dyfurias, and sometimes total obstructions of urine, were to be met with, not only among patients ill of the Dyfentery (which may be explained by the affinity of the Sphincter of the bladder, with the Rectum) but in other febrile disorders,



and even as a disease by itself. But the kidneys cannot so readily be the seat of any epidemic inflammation, if we consider they are not so properly a surface as the intestines ; they are not so lax in their texture and loose in their situation, but on the contrary much more compact, and firmly placed ; neither have the fluids in them so short a course to their excretories and returning veins as in the intestines ; add to all this, that their excretories are proportionably much fewer than those of the intestines : All these circumstances are much in their favour, and wisely established by the author of our frame. Nor are there less obvious reasons, as has been already observed, why the stomach and small guts cannot so readily be the ordinary seat of this epidemic inflammation. In short, Providence seems wisely to have provided for the greater safety of our frame, in giving a degree of weakness to the lower intestines, beyond any internal organ of excretion, for admitting of that particular obstruction and inflammation which constitutes this disease.

### *Of the State of the Fluids.*

**I** Have already observed, that when people talk of unhealthy seasons, they generally mean no more by it than the state of the air at that time ; whereas, in fact, it is always the season preceding that in which epidemics appear, to which they are primarily



owing. The turbulence or variousness of the equinoxes, indeed, has the immediate effect of rousing the seeds of those diseases latent in the blood, by the sudden, and at the same time often insensible, checks it gives to the perspiration; but it is the preceding heat of summer, or the degree of cold in winter, which determines the seat, and the violence or mildness of these epidemic disorders. If the winter has been very cold and clear, the red blood will be rendered more firm and less separable into its constituent fluid particles, and they less inflated into that volatility, which is requisite to encrease perspiration, when the season begins to turn the scale in its favour; whence arise obstructions in the membranes, and parts belonging to, and connected with, the surface of the lungs, &c. with tenacious sily blood. If the summer has been excessively hot, and more especially if it has been moist at the same time, the blood and fluids are more rarified thereby; their consistency is rendered weaker, and their volatility greater: In other words, the blood then has a greater degree of solubility, or tendency to putrefaction. I shall explain how these come to be synonymous terms.

Every chemist knows that putrefaction is generated in bodies, susceptible of it, by intestine motion, without progressive motion of the fluids. The heat of summer encreases always, in some degree,

gree, that kind of intestine motion in our fluids, and thereby impairs the velocity and momentum of their progressive motion. For this plain reason, the blood has generally more of a tendency to dissolution, than to any high degree of that fineness, which is commonly denominated inflammatory, in autumnal diseases ; and, on that account, autumnal diseases do not bear evacuations so well as vernal epidemics generally do. The due crasis of the blood being more or less resolved, it does not exert a proper reaction upon the solids or nerves ; or (if I may be allowed to presume that the ultimate fibres are vessels) it does not so powerfully supply them with that fluid which is necessary to brace them, and render their action sufficiently steady ; therefore the spirits are generally much affected, or impaired in the diseases of that season.

If this brief attempt to account for, and render intelligible something of the genius and nature of spring and autumnal epidemics in general, and of the Dysentery in particular, be just, I hope more accuracy and penetration will enable diligent observers to account for any variations, or particular circumstances in cases which may seem to redargue any part of the above doctrine, or rather explanation of facts.

To account then for the prevalency of the Dysentery here, the two last autumns, we need only observe,



observe, that both the summers preceding them were uncommonly hot, and the intermediate winter preternaturally mild. In fact, the blood was more dissolved last autumn than it was the former one. Generally speaking, when it had any fizziness at all, which as often it had not, it was such as above described; for which reason, the disease did not bear blood-letting so freely as it did the former season: The blood had undergone the ferment of two successive very hot summers, and the intermediate winter was so exceedingly mild, that it had never regained that density which it acquires in a moderately sharp winter.

This disease, like all epidemics, is, comparing numbers with numbers, more frequent in cities and towns than in the country; among the feeble than among the strong, though, for a plain reason, when the latter are attacked by it, their danger is greater; it is also more frequent among the poor and labourers, than among the wealthy, and those who live better and pay more attention to their health. Indigence, but much more especially negligence in the article of cooling after heats by labour, exercise, &c. exposes the lower class of people prodigiously to this and many other diseases. If there is any difference as to the article of food in promoting autumnal diseases, I am inclined to think the ballance is in favour of the poor;



poor; a vegetable diet tending less to putrefaction than an animal one does: It is not without design, that nature produces so many cooling fruits and vegetables for use in the hot season. The quantity of food taken at a time has ever done incomparably more hurt in promoting diseases than ever the quality of it did. In this article also, the poorer people have it much in their favour; their diet does not generally invite them to surfeit; and if they are sometimes betrayed by a keen appetite to overcharge themselves, they are obliged to the blessing of hard labour for throwing off the superfluities. Labour, and not laziness, is the best antidote for such excesses.

### *Of the Cure of the Dysentery.*

**T**HE prophylactic part of medicine, in relation to this disease, may easily be collected from the history of it: But that branch of medicine will never be so much attended to as it ought, for an obvious reason.

I have already classed this disease among the febrile ones. The permanent concomitant complaints attending it after it is formed are, constant fever, drought, parchedness of the mouth and throat, dejection of the spirits, prostration of the strength, sickness at the stomach, frequent viscid, acid,

acid, or bilious vomiting, flatulency in the belly, wringing pain in the lower part of it, and often in the same region of the back; these pains sometimes constant, but always preceding stools; an almost constant pressing to stool, with great pain and irresistible tendency to it at the same time, called a *Tenesmus*; the stools generally bloody, always slimy, and full of glary stuff, sometimes mixed with a whitish matter of less tenacity, which appears in separate little curdled-like parcels, often with blackish corrupted-like bile; the stools always odiously fetid; they are seldom natural without the assistance of purgatives, and then they are often discharged in hard, dry, little lumps; dryness of the skin, except when clammy, unbenign sweats are raised by the intenseness of the gripings and tenesmus; great watchfulness, their sleep, when they accidentally drop into any, being short and broken, with recurring pains which awake them unrefreshed. These are the principal symptoms which attend a true febrile *Dysentery*. When such a disease is epidemic there are many slight appearances of it, which happily do not extend to all these complaints, and which easily yield to proper applications.

The signs of danger in this disease are, the violence with which all the above symptoms appear: But the signs of immediate danger are, decrease of pain, great sinking of the spirits, lowness of



the pulse, beginning coldness of the extremities, parchedness and blackness of the tongue, aphthæ, white scurf or ulceration of the throat and fauces, and constant hiccup. When there is a cessation of pain, intolerably fetid and involuntary stools, shiverings, with sometimes a sense of coldness in the belly, a slight delirium, and often unaccountable fits of agony, or rather anxiety; then the case is beyond remedy, and the patient hastens to dissolution. This stage of the disease is generally attended with a small obscure pulse and cold extremities, but I have seen it in some particular cases otherwise.

It has been already observed, that this disease ought to be regarded as a fever as well as a topical inflammation: As such it requires the use of every medicine proper in autumnal fevers, which is not contrary to the disease as a flux; such as bleeding, diluters, cordials, perspiratives, nay even sometimes blisters (I do not mean the unmerciful abuse of them) may be necessary. As a Dysentery, it demands vomits, purgatives, emollient balsamic incompressants, perspiratives, anodynes, antiseptics.

The simple and proper method of treating this disease, will appear more plainly by surveying the three general indications of cure; which are, 1st, To allay the fever and resolve the inflammation.  
2dly,



2dly, To resist the tendency to putrefaction in the fluids. 3dly, To support and promote the peristaltic motion of the intestines.

As to the first, bleeding, if it be early, is generally both necessary and useful in this disease, and it may be repeated with benefit if the fever is high, the pulse full, the blood fizy, and the patient's constitution otherwise good : But repeated bleeding is by no means safe when the symptoms of the Dysentery are violent : If the patient is weak, the spirits depressed, the pulse not strong, and the crassamentum or red blood florid and soft, bleeding is to be used with caution.

Diluting, incrassating, mucilaginous drinks are proper and necessary, both for allaying the febrile heat, and for blunting and sheathing any vicious acrimony in the fluids ; thereby rendering their irritation upon the tender, inflamed, excoriated parts less affecting. For if balsamics administered internally are the proper medicines for relieving the lungs, pleura, kidneys, bladder, &c. why ought they not to be of the same consequence in inflammatory diseases of the lower guts ; for in all the guts the blood runs a shorter course to the excretories and returning veins than almost any where else. The same class of medicines are the most proper topical applications, by way of fomentation, to the diseased parts, and are highly anodyne, because of their viscous lubricating quality.

These intentions are excellently answered by drinks ~~and~~ glysters composed of milk and water boiled, decoctions and infusions of rice, lintseed, roots of Althea, solutions of starch, gum arabic, &c.

As glysters in this disease are of considerable consequence, and are always intended for topical applications and fomentations, three circumstances are necessary to be attended to in the administration of them. 1. That they be repeated frequently thro' the day. 2. That they be always injected immediately after a stool. 3. And that they be given in smaller quantity than is ordinary in other cases; by which means they have all the chances of being retained as long as possible. To increase the anodyne quality of the glysters, it is proper to add some gutts of the tinct. thebaic. to them, or to infuse a sufficient proportion of white poppy heads along with the other materials. Upon the decline of the disease, when natural, tho' dissolved, stools are regularly discharged. Then, and not till then, is it proper that the glysters be gently astringent with some balsam of the same nature dissolved in them, for healing the ulcerated parts, and bracing the relaxed ones: But the inflammation ought to be intirely subdued before such be used, except in the following case, where the greater evil must be obviated.

If the signs of inflammation be great, the symptoms bad, and any tendency to a mortification



tion to be apprehended and obviated, recourse must be had to antiseptics, both internally and by glyster. One of the most simple and efficacious is strong camomile tea, the good effects of which in this disease I can attest. Where, indeed, the danger of a mortification is apprehended from large, high, or acute inflammations (as in cholics or the iliac passion, pleurifies, &c.) with a buffy tenacious state of the blood, the use of warming antiseptics is like throwing oil into the fire : But where the mortification is dreaded from the putrescent state of the inflamed part, and its humours, or from a general tendency to solution in the fluids, then the warming antiseptics are strongly indicated. In such cases, I have always judged, what in extremity must be our last resource ought to be our first, and, therefore, I constantly applied to the Peruvian bark with such success in very bad cases as gives me confidence to recommend it. Its importance does not arise from its topical stypticity, which, in my opinion, is contra-indicated in this disease ; but necessity has no law, and that inconvenience is richly atoned for by its superlative antiseptic quality of resisting putrefaction, and of supporting and restoring the natural and vital tone of the solids, and the crasis of the fluids throughout the whole extent of the system. In proportion to the danger and urgency of the symptoms, antiseptics may be



be exhibited, more concentrated, or more diluted with mucilaginous balsamic emollients in draughts, or the like. In this disease I have generally added as much rhubarb in decoction with the bark, as I thought would correct its topical astringency. It will appear more fully afterwards, that astringents, as such, are much against this disease in particular, as they are quite improper in inflammations in general.

The second general intention of cure, is to resist the febrile tendency to putrefaction in the fluids, which is so much the more to be attended to in this autumnal disease, as it is fed by a constant reabsorption into the intestinal veins of the great guts of putrid stuff discharged from the seat of the disease: It has also been explained in what manner the bile is vitiated by this disease; and as no humour in the body is sooner vitiated than bile, so no humour dissolves the blood more than bile, especially if it acquires any putrid taint.

This indication of cure I have in some measure anticipated by what is already said of the danger of a mortification in the seat of the disease. But I would not have any to presume, that a mortification happens there only and simply from the high degree of topical inflammation, and not from the putrescent nature of the disease; or that there is no danger of the disease proving fatal from the bad state of the fluids, without an actual mortification

cation of the diseased part; neither, that a mortification cannot happen any where in this disease, save in the inflamed great guts. The two following cases shew the contrary.

In the month of September last, a healthy young man, in the country near the coast, was taken violently ill of the Dyfentery, attended with a great depression of spirits, and was treated in the manner recommended by this essay; only, as the symptoms did not seem so urgent as to demand the cortex, it was not given. His dysenteric complaints gradually abated, and his stools became natural, tho' liquid; only there remained a great dejection of his spirits and strength. In a few days, after the abatement of his dysenteric symptoms, he was seized with the appearance of a tertian intermittent, which was not much regarded for two or three paroxisms, until, in one of them, he was seized with an intolerable anxiety and faintness, which occasioned the physician to be called again. When he was visited, about twelve hours after the access of this paroxism, his extremities and face were quite cold and damp, and he was affected with a slight delirium: At that time he had two natural, but liquid stools, only of a more redish brown colour than common. He had no signs of mortification in the guts, as both the stools were voluntary; he even rose out of bed to pass them. He died in some hours after.



In the same month, a middle-aged, lusty, and tolerably healthy woman, a widow, who had been for between two and three weeks very ill of the Dyfentery, and not much purged by medicines during that time, was seized with violent deep-seated tendinous-like pains in her feet and legs, particularly in one of them, which was at the same time cold and benumbed to the touch. The use of the Decoct. Serpentar. composit. Pharm. Edinb. was immediately ordered internally, and strong aromatic embrocations were applied to her leg and foot; however, next day all her toes appeared gangrenous about the first joints; the gangrene was also spreading along the edge of her foot below the small toe, and a broad livid spot appeared upon the roof of her foot, at the end of the great toe: Her Dyfentery still continued violent. A decoction of the bark, prepared as above, was immediately ordered for her, which she continued to use for a long time; the gangrene was checked thereby, a slight inflammation appeared round the edges of the gangrenous parts, the livid spot on the roof of her foot changed first into a bright red, and then gradually into the natural colour of the skin. Her gripes and tenesmus gradually abated, and natural stools returned, without the assistance of any other purgatives or antidyfenteric medicines, except the rhubarb contained in the decoction of the bark. The mortified parts separated.



rated in several places as deep as the bone, and in the issue she happily recovered, tho' slowly. It is worth noticing, that, notwithstanding the low state to which she was reduced before she began the use of the decoction, yet, during the use of it, she had several irregular appearances of the menses. But to return,

As I apprehend, that the resisting of a tendency of the blood to solution is always indicated in this disease, when, perhaps, the absolute necessity of the bark is not; the most proper medicines to answer that end are diaphoretics and sudorifics. Their propriety is so much the greater in this distemper, as the discharges by them give the most immediate check of any to the dysenteric complaints; which, to me, is no small confirmation of the cause of it, as already explained. Therefore, in the beginning of the disease, while the pulse is full and firm, the fever sharp and the sense of heat great, Sp. Mindereri perfectly neutralised, and given in evening draughts to the quantity of two or three drachms, is as efficacious as any medicine in promoting a diaphoresis, or even a gentle sweat. But the diaphoretics I principally point at, are those which are also called alexipharmics, cardiacs, or antiseptics: Of these there are a great many, both simple and compounded, which may be exhibited in the forms of drinks, draughts, juleps, bolus's, &c. As it is allowed by the universal

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verfal consent of phyficians, that the pores of the fkin are the moft certain paffage of any emunctory in the body for difcharging any morbid or vitiated matter in the fluids; and as the crifes of all febrile difeafes are tried to be promoted by a profufe diaphorefis, there are the ftrongeft indications for promoting it in this difeafe, both becaufe it is a fever, and on account of the vitiated tendency of the blood.

All aromatic and ftimulating medicines, by their proper action in the animal fluids, while they remain unaffimilated, refift the tendency to folution in the particles they are immediately contiguous to, probably by the impreffion they make upon the exterior furface of the animal particles, reinforcing that internal action which refolves and breaks them. The more tenacious fuch medicines are of their natural quality, and the longer they continue unanimalized (if I may be allowed to ufe the term) or unaffimilated, the more permanent will their effects be; for which reafon, *cæteris paribus*, I would always, for example, prefer fnakeroot, or any fuch vegetable aromatic, to caftor and camphire, nay even fpirituous liquors to alkaline falts or fpirits. I am apt to believe, that the extraordinary efficacy of the Peruvian bark is, in fome meafure, owing to its being long tenacious of its form in the circulation, and confequently of its proper action upon the folids and fluids;



fluids ; for whenever any substances are thoroughly assimilated, they lose their virtues as a medicine ; and it will be admitted as a maxim in general, that vegetable substances are not so easily subdued and robbed of their native virtues as animal ones are. There is another more confessed and undoubted effect, which warming medicines have in resisting any tendency to solution in the animal fluids : They rouse and irritate that active principle in the nerves, ultimate fibrils or solids, which promotes the circulation or progressive motion of the blood ; the relaxation of which gives occasion in a great measure to that increased intestine motion which tends to resolve it. It is with great judgment and propriety therefore, that Dr. Huxham classes the abuse of (a most valuable medicine when used with propriety, namely) the hot or tepid bath in eastern and southern climates, among the procatartic causes of malignant fevers.

The third intention of cure in this disease, is to support and promote the peristaltic motion, or that action of the intestines which carries the food and its recrements regularly from beginning to end of the alimentary canal, and thereby promotes the regular discharge of natural stools. It may appear strange, that this should be pitched upon as an indication of cure in a disease which goes by the name of a flux : But it is certainly



a principal one ; and, if it is neglected as such, it may not unfrequently prove of fatal consequence, in cases which would not otherwise be dangerous, if it were duly attended to. While the great guts are inflamed, instead of that natural, regular, alternate contraction and dilatation of the muscular coat and fibres of these intestines, their inflammation, and the irritation of the putrid extravasated humours, keeps them in an almost continual state of wringing painful contraction : This constant nifus to contraction in the fibres of these intestines, and that swelling or thickening of their coats, which is inseparable from their inflammation, contracts their cavity, shuts up, or in a great measure straitens, the access of the natural feces into the great guts ; and likewise suppresses, nay even sometimes reverses, that peristaltic motion which is the cause of their natural descent ; for when that action is not obtemperated from end to end, it languishes in the sound parts ; and if the inflammation is very violent, it is even reversed ; a remarkable example of which I once met with upon being first called to a dysenteric patient, who had the same reachings and rejections at the mouth which are to be met with in the most violent iliac passions, and who died in thirty-six hours after. We have an illustration of the truth of this, in what happens to the muscles upon strains, bruises, or inflammations in any part of them. The whole

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muscle remains in an inactive, partially paralytic, state ; but if the pain encreases to an intolerable acuteness, the muscle is then often thrown into cramps and convulsive involuntary contractions.

The different degrees in which the peristaltic motion is affected as above, according to the violence of the inflammation which constitutes the Dysentery, is not a plausible supposition, but is plainly indicated by the following symptoms : A total suppression of natural discharges, while slimy, bloody, fetid stools, are constantly urged off with great pain ; the hardened knotty state of the natural feces, when they are forced away by the assistance of purgatives ; the constant tendency to reaching and vomiting in violent states of the Dysentery, occasioned in a great measure by the bile being squeezed backward into the stomach, and irritating its increased sensibility, and the hiccup, which, indeed, is the most dangerous symptom attending the inflammatory state of the disease, and without which it rarely proves fatal. There is another kind of hiccup, which appears towards the decline of the disease when the inflammation is abated ; this is not so much to be dreaded as the former, tho' it is not without danger when neglected.

No medicine is so much calculated to promote the regular action and direction of the peristaltic  
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motion as the repeated use of gentle emetics and purgatives : Tho' the action of vomiting itself is an inversion of this motion, yet it is a most useful means to recover and forward it ; for, at the same time that the stomach unloads itself by the mouth, it also forces part of its contents downward : Its muscular fibres encompass it in such directions, that it cannot be thrown into violent action without rousing the peristaltic motion, and acting in its direction as well as upwards. There is another signal benefit derived from gentle emetics, the progressive motion of the blood, and its transmission thro' its finest passages, is thereby greatly facilitated, and the pores of the skin are thereby opened, which is indispensibly necessary in the cure of this disease ; vomiting being one of the most certain and instantaneous diaphoretics in nature.

Purgatives are of no less importance than vomits ; they rouse and support the peristaltic motion ; they contribute to dislodge the indolent feces obstructing the higher intestines ; they solicit a discharge of fluids from the glands of these intestines, which by some degree of revulsion relieves the load, and weakens the morbid flux of humours upon the diseased great guts : They scower off and discharge the morbid humours themselves, which prevents their putrefying and noxious tendency from being encreased, by lodging too long  
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in the cavity after they are discharged from the circulation. And, after their operation as purgatives, they leave such a gentle bracing upon the vessels as strengthens their tone without shutting their orifices, which strong astringents are apt to do. All these intentions are admirably answered by a proper continued administration of ipecacuan. and rhubarb.

Having taken a general view of the intentions of cure, and the medicines indicated, the proper application of them, upon which their utility in a great measure depends, is reduceable to a very natural and simple plan. It is no uncommon thing in this, and such other diseases as admit of different indications of cure, to jumble medicines together of opposite natures and intentions, without much judgment or order; opiates, purgatives, absorbents, astringents, and alexipharmics, all in the same composition. But as we ought to follow nature in every thing as much as possible, the first and principal lesson we are to copy from her in this disease, is to accommodate the administration of medicines in it to the division of time into day and night. The day is for action, and, therefore, the proper season for the operation of active medicines. After bleeding, therefore, as much as is safe, and as early in the disease as possible, and then giving a regular puke in the ordinary dose,



no day ought to pass (unless some particular indication forbid it) without exhibiting alternately a moderate dose of rhubarb, adding to it occasionally some grains of calomel, and a small dose of ipecacuan. from two to eight grains: This latter seldom fails to excite a little salutary puking, as well as to operate by stool. There is no more direct proof of the inertness of the peristaltic motion, in the small guts, than that the dejections procured by these medicines always (unless in cases of very great inflammation) contain some natural feces, while those discharged by the disease seldom contain any: And while natural stools are procured by such medicines, the case of the patient always admits of a favourable prognostic.

The most proper drinks, during this disease, are cooling mucilaginous decoctions, corrected gently with aromatics, rice-water, oatmeal, gruel, lintseed tea, decoctions of Althea, &c. qualified with a little cinnamon, mace, caraway seeds, or any other aromatic most agreeable to the patient. Both the flatulencies generated constantly in the bowels, and the state of the blood, require these cordial correctors added to the ordinary drink. Where there is any suspicion of a tendency to mortification, the most proper of all ordinary drinks is camomile tea, drunk in considerable quantity where the patient will comply with it: It is also in this case the best basis of glysters: If it

is used freely there will be little use for cordial juleps or draughts, excepting in so far as they are made the vehicle of mucilaginous or unctuous medicines, which are both salutary for the blood and for the state of the intestines in this distemper.

Again, nature having destined the night for rest, and for a more profuse perspiration, the medicines exhibited in the evening ought to correspond with these intentions. As much regard as possible ought to be paid to this distinction in all diseases, but in none can medicines be adapted to it with more propriety than in this.

Tho' anodynes contribute nothing, in the first instance, to the resolution of an inflammation, and are highly improper in all acute inflammations, which border upon mortification by a fallacious suppression of the sense of that pain which is the index of the degree of danger; yet both reason and experience justify their use and importance in the cure of this particular inflammatory disease. Indeed they are very judiciously administered, if they are given in such quantity, or in such repeated continuance, while the inflammation is high, as to force even as long a sleep as one naturally enjoys at one time in health. This would be suppressing the sense of pain so far, as really to accelerate a mortification. It is requisite, therefore, in this disease to give opiates in such quantity

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tity as to prove only gently anodyne. The watchfulness brought on and kept up by this disease is so great, that nature requires only an alleviation of pain, in order to recruit herself by rest : Opiates, therefore, given in this proportion, are only the occasion of natural rest, by relieving those grinding pains and calls to stool which resist it. Opiates thus given, tho' for a while they check the morbid discharge, yet afterwards they relax the orifices of the vessels, and render the discharges more free and less painful.

But one of the principal benefits derived from anodynes in this disease, is the gaining of composure for promoting the efficacy of another kind of medicines, useful in all diseases, but especially so in this ; namely, diaphoretics and gentle sudorifics. Whether we consider this disease as a fever, or as a topical inflammation seated in a Viscus, which, as before explained, so immediately corresponds with the pores of the skin, and which has obstructed perspiration for its immediate cause, these medicines are highly necessary, and have not, in fact, a more immediate and more sensible good effect in any formed acute disease than in this : But tossing thro' want of sleep, constantly recurring pains in the lower belly, and incessant calls to stool, render it almost impracticable to procure a diaphoresis by the most efficacious medicines ; without the assistance of anodynes it is impossible. Sleep naturally

ly raises the pulse and slackens its velocity; it replenishes the exhausted vessels, and repairs the wasted spirits with fresh supplies; it encreases the momentum of the blood, particularly in its direction towards the external surface of the body, and thereby relieves the internal parts. Hence it appears, why in this disease, particularly, anodynes and diaphoretics may be conjoined with remarkable propriety and success in one and the same dose, and why the evening is the critical time for exhibiting them.

In general the medicines requisite in this disease may with strictest justice be distinguished into nocturnal and diurnal ones, which ought to be confounded as little as the state of the patient and the disease will admit of. However, as it is sometimes impossible, on account of particular symptoms, to adhere precisely to the best general regulations, I shall mention two or three circumstances which ought to interrupt such a regular course. In some cases, when the disease runs very high, and the symptoms are very obstinate, the resistance from the inflamed lower guts to correspond with the propulsive action of the higher ones, and to receive and transmit the feces, it may happen that the medicines given to promote that intention shall be rejected upward again by vomit, and no natural passage downward shall be obtained. In this case it is dangerous to be so bold and free with



anodynes at night, as otherwise a physician might be with safety and advantage. Here it is not improper to remark, that when, in such cases, the common anodyne is dangerous, I have found another, both anodyne and sudorific, not only safe but of signal benefit; namely, repeated fomentations of any warm decoction or infusion, such as camomile tea, or even warm water: There is never any contra-indication to these excellent applications, save the difficulty of keeping the bed-cloaths dry during the use of them, which may be easily done by active and skilful nurses. Another circumstance which supercedes the above general rule is, when a diaphoresis is procured, and the pains, which were otherwise obstinate, yield to it, it is sometimes judicious to suspend the use of other medicines, and push it on thro' the day; for, by this means, I have seen the disease sometimes suddenly resolved, which in appearance, and according to the ordinary course of it, would have otherwise been protracted to weeks. Some seasons, indeed, may be more favourable for these revulsions than others, as I think last season, upon several observations, appeared to be considerably more so than the former.

As to the diaphoretics proper to be used in this disease, if the fever is high, the liquid diluting ones are most suitable; such as, *sp. minderer*, rendered properly anodyne, and mixed into a draught

draught with any simple water, such as aq. alexiter-epidem-theriacal-cinamon, &c. When the fever is not high, but the pulse rather weak, the more warming diaphoretics answer best; such as the theriacs confect. cardiac, &c. rendered properly anodyne.

There is one thing worthy of a particular remark here, as it is of general use in the practice of medicine; namely, the certain effect which an anodyne has of converting ipecacuan. into a powerful diuretic; so that, by concealing a few grains of this root, or some drops of its tincture, in a bolus or draught, its effect that way may be depended upon. Thus ipecacuan. approaches nearest to a specific of any one medicine in this disease, for, having no tendency to heat the blood, or encrease the fever unduly, by proper management it may be depended on as a safe vomit, an easy purgative, a powerful diaphoretic, and a mild astringent, or rather a bracer of the tone of the vessels.

Upon the whole, in ordinary cases, nature is rationally and successfully seconded and supported in vanquishing this disease by the regular administration of gentle bracing emetics and purgatives by day, and of anodyne diaphoretics by night.

Where there is evident danger of a mortification, as the cortex is the only specific in that case,

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recourse may be had to it immediately, not only with safety but advantage to the disease as a Dyfentery ; for while it powerfully resists putrefaction and mortification, it also strengthens the tone of the stomach and small guts, and revives their languishing propulsive motion. It is, at the same time, prudent to temper it with some rhubarb to carry it along the canal, lest, by its lodging too long, its astringency should shut the orifices of the meseraic excretories, and so produce obstructions in their glands. This is an effect it is apprehended to produce frequently, when given in great quantities, and for a long series of time, to check obstinate autumnal intermittents contracted in unwholesome climates; insomuch, that when the British troops were abroad, during the last war, in Zealand particularly, where I had opportunity to see most of the effects of the cortex in that disease, such as did not recover by the use of it, or such as frequently relapsed, died generally of dropsies from obstructed viscera, or of mortifications ; which latter was more properly the effect of dissolved blood and relaxed solids, their reciprocal action upon each other being totally enervated. It was commonly reported among us at that time, that there was an act of the states of that province prohibiting the use of that medicine among the inhabitants in autumnal agues, because of its apprehended bad consequences : What truth there

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was in the report I never had an opportunity of satisfying myself; but this I knew of many, and experienced upon myself personally, that the cortex always carried off those dangerous intermittents most expeditiously and safely, when it proved a moderate laxative during the use of it, which does not altogether correspond with their opinion, who think that medicine acts only topically, and while its substance remains in the body. But tho' the immoderate use of the cortex may be apt to produce such effects, and tho' it is adviseable, even on other accounts, to conjoin some rhubarb with it in the Dyfentery, yet there is little to be apprehended from that effect of it in this disease, seeing the shortness of the period which must determine its efficacy, and the inconsiderable quantity (when compared with that necessary in the malignant intermittents) in which it is taken, can threaten no such consequences.

The most insuperable obstacle to the success of the cortex, where the use of it is necessarily indicated, is the hard undissolved state of the feces undischarged from the lower parts of the small guts, and the higher parts of the colon. If there has been little or no discharge of natural stools, during the course of the disease, it is always to be feared that there remains an obstruction from these consolidated feces, which, unless they can be resolved and discharged, will repel all attempts to restore  
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the intestines to their natural tone and action. And yet as the cortex frequently acts primarily as a laxative, in weak bowels, its action that way conjoined with rhubarb must be so far presumed as to give it a trial in cases where there is an imminent danger of mortification.

As I do not remember that this particular symptom of indurated feces, which I have reason to look upon as a pathognomonic one, during the strength of the disease, has been particularly treated of, I would not have it therefore concluded as merely hypothetical. It is a fact, which I was led to attend to very early when the distemper became first epidemic here in the year seventeen hundred and fifty eight, and which I traced with attention in numbers since ; and which is likewise confirmed by the observation of several other gentlemen of the profession in this place and neighbourhood. When we reflect upon it, it must be allowed a necessary consequence of an inflammation in any part of the alimentary canal, and it is a symptom which, unless it is obviated, no inflammatory disease in the bowels can be rationally cured. It is no argument against this fact, that, in the decline of the disease, when the feces begin to flow regularly, they are generally liquid ; for, by narrow inspection, I have often observed they are at first dissolved lumps that had been indurated, as was evident from the number of small hard bits

bits mixed in them; not like the stools which flow equally liquid in a diarrhœa, or afterwards during the recovery from this disease.

I have great reason to apprehend, that this very circumstance of hardened feces may prove fatal in the Dyfentery where there is no real mortification; particularly from one case which gave me great concern, and which I paid all the attention to in my power, as the patient was a very deserving domestic of my own. A young woman, who had been in a very indifferent state of health thro' the summer, and who was but newly recovered of a febrile disorder when she came into my family at Lamma's last, was in September, when the Dyfentery was most epidemic, seized violently ill of it, at the very same time that the menses appeared, which stopped before, they had continued with her the fourth part of their ordinary period. ---No doubt that discharge took the route of the disease. Besides these un auspicious circumstances she had concealed her having the distemper for four days. When I was first informed of it, I found her as violently ill as any I had ever seen, who was not in the last stage of the disease: Constant violent gripes and tenesmus, great heat and drought, a quick but not a full pulse, bloody, slimy stools, but no natural ones, from the very first invasion of the disease; and, as she had almost no remission of pain, she got no sleep. She was taken ill on the



Monday, and got a vomit and anodyne on the Thursday evening, before I was made acquainted with her illness. Next morning some blood was taken, which was never repeated, both because her pulse would not bear it, and because the crassamentum was very florid on the surface, without the least appearance of siness, and of a very soft consistence. Hoping that, bad as she was, the worst symptoms might yet be obviated, I was alarmed early next morning at hearing her hiccup several times. As her pains continued intense for four or five days after, I could not apprehend a mortification was already begun, so I attempted, sometimes more than once every day, to urge and solicit natural dejections by both emetics and purgatives, besides frequently repeated glysters, but none could ever be obtained. All medicines either were rejected again, or aggravated her pains without any other effect, nor had I any better success with anodynes : No medicine I durst venture upon ever produced a natural stool, and no anodyne could procure her an hour's sleep, or respite from pain, at a time. As her hiccup continued to increase, theriac and camphire were applied to her stomach, and a camphorated cordial julep administered internally. These relieved that complaint considerably for some time.

Upon her pulse sinking, her pain abating, her extremities growing cold, and her spirits failing,

I apprehended the approaches of a mortification, and applied a blister between her shoulders, sinapisms to her feet, allowed a free use of wine, or spirits sufficiently diluted, and ordered a decoction of the cortex with snake-root. These in one night restored her to her former warmth, and maintained it for some time, with a profuse diaphoresis, which greatly relieved her pain for two days ; inasmuch, that I still dreaded the tendency to a mortification ; so I again ordered some rhubarb, which I thought would determine that matter by exciting her former gripes, if her bowels were still sound, which it did, and at last the decoction of the cortex had the same effect. I flattered myself, that the cortex was exerting its effect in strengthening the tone of the guts and exciting their action, and looked upon the obstruction, from the endurated feces, as the only thing to be conquered, which I even entertained some hopes of doing, as now some glysters came away tinged with natural feces ; but her spirits and strength were exhausted, and she had an unusual craving for very warm cordials. She could not continue the use of the decoction because of the gripings it excited, and the parts were become so sensible and tender, that at last she could not undergo the administration of glysters. But what was most remarkable, she complained now, and continued to do so for two or three days before her death, of a sense she had of some load to



be discharged, which she had not strength to expel, but which she could not live without passing. A day or two before she died, she complained of a foreness of her throat, which, being inspected, was aphthous; an epitheme, the same with that applied to her stomach, was laid round it, and it was carefully washed with an infusion of sage and rose leaves, with red wine added to it. This patient died on the fourteenth day, with little or no delirium until within a few hours of her death; some sense of griping now and then to the last, and no involuntary stools.

The principal reason for my inserting this history is to show, that though, from the beginning, the case was one of the most violent, and attended with some very unfavourable circumstances to aggravate it, yet to the last there seems to have been no mortification in the bowels actually commenced, which is the case with few who die during the violence or febrile inflammatory state of the disease: How far this was owing to the use of the cortex I shall submit to the judgment of others. But I cannot help being of opinion, that if the disease, bad as it was, had been timely discovered, the bowels early emptied of the natural feces, and kept gently open and moving before the violence of the inflammation had impressed a continual spasm and reniscus to the descent of the natural feces upon the inflamed intestines, the immediate

cause

cause of this patient's death would have been obviated.

This case, with many other examples, I have had both of hardened feces themselves, and such resolved again and happily discharged during the violent state of the disease, made me presume that it would be of great use in the cure of it, if a mild laxative, properly corrected with carminatives and anodynes, could be contrived and administered frequently, so as gently to stimulate the intestines and resolve their contents, without endangering any exacerbation of the gripings. I had very soon after a very proper occasion of trying the success of this method.

An elderly gentlewoman, of a pretty good constitution, had been very ill of this disorder; the symptoms had abated considerably for some time, under the management of a very skilful gentleman; but she relapsed into the disease again with the same violence as at first. All along her pulse had been remarkably full, on which account she was let blood several times, and her blood was always uncommonly fizy, beyond any person's I ever knew in this disease. In this relapse she was as feverish as at first; she had a constant sickness at her stomach, and a tendency to puke, which gave her a constant kind of febrile anxiety, so that one would have apprehended her pain great, which, in fact, was not the case, for her gripes and tenesmus



mus were remarkably gentle, tho' her stools were as bad as when these are most severe. From the first invasion of the disease she never had any natural dejections save twice, on two different days, that some little hard knots of feces were passed. In this situation, in the evening her stomach was washed with some camomile tea, and an anodyne was given both in a draught and glyster. Next morning she began to take every four hours the bigness of a nutmeg of lenitive electuary with some rhubarb, a small portion of jalap, some confectio cardiaca and tinct. theb. added to it : By the use of this, natural stools were restored, hardened at first, the morbid discharges abated apace, the sickness at her stomach was removed, the fever subsided, and she recovered daily. I have been since inclined to think, that Dr. Cockburn's specific electuary for the Dysentery must be a composition of this nature, with, perhaps, some of the milder balsamic astringents added to it ; for I have been told, that it acted rather as a gentle laxative than as any sensible astringent.

Upon the decline of this disease, after obstinate and tedious cases, when natural stools are restored to their course, the three following symptoms are frequently met with, some of which prove very troublesome, nay sometimes dangerous. The feces continue for a long time to be very liquid and dissolved ; white tallowy like substances, frequently

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ly of a considerable size, are discharged by stool, and the patients are often distressed and reduced to great extremity by an obstinate hiccup. These three symptoms have each of them their particular reference to the three divisions of the alimentary canal; namely, the great guts, or recent seat of the disease, the small guts, and the stomach and gullet.

The loose state of the stools at this time, is what may be properly called a flux or diarrhœa. It is the effect of the remaining weakness or relaxed state of those vessels of the great guts particularly, which secrete the humours for mollifying the feces, and lubricating their passage. These vessels, having not yet recovered their tone and contractile energy, pour out their moisture into great quantity, which keeps the feces in that liquid state. This undue quantity of secretion (as all discharges proceeding from relaxation generally do) prevents the body from recovering its former strength so soon as it otherwise might. Now it is, that gentle bracers and astringents become proper and useful, administered both internally and by glyster. But the cure principally depends upon restorative nourishing diet, which the stomach has a remarkable craving for; a certain indication of recovery in the decline of this disease.

The white tallow-like substances are unnatural concretions formed in the small guts during the  
course



course of the disease; their strength and action being weakened and vitiated by the preceding inflammation of the great guts. The generation of such substances is not peculiar to this disease, they being frequently discharged by persons who labour under chronical disorders and obstructions of the alimentary canal. Whether it is the peculiar property of the liquor secreted from the plexus glandulosi of the small intestines, in weak states of the bowels, to acquire this consistence and appearance by inspissation; or whether, more likely, the free absorption of the Chyle being weakened and impeded, some of it stagnating and mixing with the secreted juices, coagulates into these steatomatous-like substances; or what other circumstances may concur in generating them, is hard to determine. This, however, seems certain, that they are the production of the small guts, as those substances never begin to appear until the feces have regained their wonted passage along the great guts. These appearances require the use of such strengthening purgatives as rhubarb, &c. with the addition of calomel sometimes, which acts by its weight, in some measure, to assist nature in expelling them.

The seat of the hiccup, which is so very annoying to patients who are reduced very low before the inflammatory state of the disease is conquered, is the stomach. This hiccup is carefully to be distinguished

tinguished from that far more dangerous one already mentioned, which occurs during the height of the disease. Tho' the first, when the symptoms happen to be removed or obviated which excited it, if the patient is before much reduced, often changes into the nature of the last. As the hiccup, in the decline of the disease, is intirely owing to a great inanition of the vessels and relaxation of the solids, there is always hopes of removing it, if the patient's constitution is not reduced past repair. But if that is not the case, as it has not any obstruction of the intestines, nor inflammation degenerating into mortification, for its immediate cause, proper medicines, and nourishing light diet, will always cure it. Musk and camphorated juleps, with other medicines of the same nature are very serviceable, together with theriac or other aromatic fomentations or applications externally. I tried oil of cinnamon dropt on a piece of fine sugar, on account of its being strongly recommended in some monthly paper, but found no greater effect from it than from other forms of aromatics. The truth is, if the stomach is very greatly relaxed, the use of aromatics is not sufficient to remove the cause. The vessels of the stomach being greatly relaxed, the gastric and other juices are poured into it in extraordinary quantities, which, by reabsorption and exhalation of its most fluid parts, collects into large quantities



tities of viscid indolent phlegm, and proves a vast load upon the stomach in this enervated state ; therefore there is no other effectual method of relieving the stomach from time to time but by repeated gentle bracing vomits ; for until the vessels of the stomach recover their tone, the first sign of which is a remarkable craving for food, that phlegm is recollected very fast ; and whenever it is regenerated in any quantity, the hiccup occurs again, tho' the vomit is always a temporary, and proves at last a total cure. Nothing answers the intention, both of vomiting and bracing the stomach, better than camomile tea, which I do not recommend as a specific throughout the whole course of this disease in any other sense than as it is one of the most common, pleasant, efficaciously antiseptic, and bracing bitter infusions.

There are three species of medicine, which I do not think it sufficient to have taken no notice of, as they have been of too common use in the Dysentery, tho' I suspect them to be rather hurtful than serviceable in that disease. These are liquid purges, astringents, and absorbents.

Liquid purges, aqueous decoctions and infusions, I mean, especially where fenna is an ingredient, are apt to generate flatulencies and wind in the small guts, especially if there is any considerable obstruction to the descent of the feces, either from their own indurated state, or the inflammatory

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tory state of the diseased parts. By this means the gripings are both irritated and excited higher in the belly than they commonly arise in this disease. I have suspected likewise, that these liquid purges being more absorbed into the blood than those given in substance are, they have more of a tendency to dissolve it further than to strengthen it. For which reason I have always apprehended it more safe and successful to give both emetics and purgatives in substance, allowing the juices, which they find in the guts, or which is solicited from them, to be their solvent. By this means there is another advantage gained. The gentle astringency, or bracing quality, inherit in the substance of ipecacuan and rhubarb particularly, and which does not part from their substance by infusion so readily as the purgative quality does, is thereby conveyed, and co-operates in a mild and safe degree along with the other. For this may be observed of all medicines, which is notoriously known of the Peruvian bark, that it is more difficult to extract their astringent quality from them than any other virtue they are possessed of, unless it is from the delicate texture of blossoms and flowers; such as balustian flowers, roses, &c.

The impropriety of strong astringents, where there is a large inflammation or suppuration in any part, is so obvious upon the least reflection, that



it is evident, I think, the practice must be very hurtful, until the decline of the disease, as above observed. While the guts are unemptied of the natural feces, and unopened to their passage, nothing can be more dangerous than to bind them up more. If strong astringents have any meaning in this disease, they must be intended to act topically upon the vessels from whence the morbid discharge is derived. But the first question, as to that intention, is, how do these medicines reach the seat of the disease if there is not a free passage along the canal? And the next is, are they at all a proper topical application to the seat of a putrescent infectious inflammation or ulcer. The fatal effects of strong astringents taken in large doses, according to the direction of vulgar nostrums for this disease, are so frequently to be met with, that it is enough to deter any physician from meddling with that practice. The credit that these secrets gain, by their immediate effects, upon persons who are affected with a slight degree of this disease, proves the destruction of many who labour under the true febrile Dysentery. The melancholy accounts I have heard of whole families dying of this disease, in country places especially, for want of proper care and directions, must make every person of humanity lament that so many should be lost in a disease, where early attention

tion to it, and proper management of it, promise so much.

Aborbents may be of some use in the stomach when an acid prevails there ; and the best in that case is *magnesia alba*, which, by recovering and uniting with an acid in the stomach, becomes again a gentle laxative neutral salt ; but how aborbents are intended to act with regard to an inflammation, I am at a loss to know. They cannot enter the blood ; if they can pass along the alimentary canal while the smaller guts are indolent and unemptied of already endurated feces, their absorbent quality must be saturated before they reach the seat of the inflammation ; the natural inertness of aborbents must also be in hazard of increasing the weakness of the propulsive action of the small guts, and they must increase the dryness of the undischarged feces ; some striking examples of which are mentioned by the learned Dr. Huxham, somewhere in his observations, *De aëre et morbis epidemicis*. Besides all this, Dr. Pringle has demonstrated, by his ingenious and judicious experiments on septics and antiseptics, that, so far from being endowed with any antiseptic quality, they, on the contrary, are evident promoters of putrefaction ; consequently they, mingling with the putrid humours of the bile and of the diseased parts, if their efficacy can reach them, are in hazard of corrupting them further. How suspicious then



then are the effects of chalk, juleps, and white decoctions, too freely administered in this distemper?

From a general view of what ought to be the intentions of cure, it is obvious, that mucilaginous and unctuous draughts must be in every respect preferable to absorbent ones, even supposing the latter capable of doing no hurt. Of the unctuous medicines, the most solid ones, such as spermacœti, must likewise be preferable; and if wax could be properly dissolved, and its parts separated, it would probably be preferable to any other. The best attempt to pulverize it, is the pulv. testac. cerat. pharm. Edinb. In that composition I look upon the absorbent as of no further use than to separate the parts of the wax; and tho' the scorching of it, in some measure, alters its balsamic quality, yet I apprehend it communicates a diaphoretic one to it.

This leads me to mention another very efficacious medicine in this disease, well known for some time past; namely, the vitrum antimonii ceratum. When prudently used, it is a good and powerful medicine for the Dyfentery. However long it may have continued a secret in ignorant hands, it must have been first discovered, and the use of it ventured upon, by a skilful and bold practitioner, who has judged rightly that this disease was, in a great measure, to be successfully  
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attacked by rousing and preserving the peristaltic motion of the bowels by means of vomiting and purging. The medicine is safe at any time when the inflammation is not at a dangerous height, and the patient has strength to undergo its operation. The dose is uncertain, until the power of every preparation of it is tried. The wax in it seems principally designed to sheath and cover the strong degree of irritation in the vitrum antimonii. Its effect in proper doses is the same with, tho' more violent than the ipecacuan; therefore the latter is generally preferable as a milder and more safe medicine. One thing to be remembered of the strong antimonials is, that they are not soon, if ever, exhausted of their powers while they continue in the body; therefore the vitrum will act as a cathartic as long as it remains in any part of the canal, whereas the vegetable medicines have their emetic and cathartic virtues drawn from them by infusion in the humours or fluids of the guts, and the remaining parts become indolent or subastringent.

It is probable that this medicine has been invented and used before the virtues and value of the ipecacuan root were known, which has likewise been adopted as a secret in the cure of the Dysentery, because of its analogous operation to the vitrum. Dr. Gordon, of Dumfreis, communicated to me, since the writing of this, the nostrum



of one Jardin, an Irishman, who acquired great reputation and a small fortune in Galloway, between twenty and thirty years ago, by curing the Dyfentery, only by the repeated use of the following draughts, proportioned to the age and strength of the patient.  $\mathcal{R}$ . pulv.  $\mathcal{R}$ . ipecac.  $\mathfrak{z}$ i. bol. armon.  $\mathfrak{z}$ ij. coral. rubr. ppt.  $\mathfrak{z}$ i. aq. alexiter.----cinamom. hord.  $\bar{\text{a}}$ a.  $\mathfrak{z}$ vi. fyr. peon.  $\mathfrak{z}$ i. m. f. M. It is evident, that the ipecacuan was the medicine depended on, without which there could be no efficacy in the others for removing that cause of the disease which the ipecacuan is so suited for resolving; besides this mixture, he used only anodynes and a strengthening electuary and cordial julep, during the recovery of such as were greatly weakened by the disease.

If it is attended to when any distemper is epidemic, there will generally be found a great number of anomalous complaints prevailing, which have some affinity with the epidemic. These were more numerous and various this last autumn, seventeen hundred and fifty-nine, than the preceding one. The latter of these seasons especially, it was very common for numbers of people who escaped the Dyfentery to be troubled with flatulencies, slight gripings and twitchings in the belly, which was generally attended with blackish stools, or such as were of a darker colour than natural.

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Stranguries were likewise pretty frequent, and icteric complaints, or the jaundice ; these small conduits and their sphincters becoming sometimes the seat of some degree of the epidemic complaint, by virtue of their affinity, and connexion with the intestines. The strangury was a very common symptom in many fevers, which occurred during the prevalency of the Dysentery. I attended one in a fever at that time, now happily recovered, who passed no urine for ten days, except what was drawn off by a catheter. I had then also particularly one patient, afflicted with one of the most obstinate suppressions of urine that ever I met with in one who recovered from such a disease, without any other concomitant complaint or disease, unless that of a tender relaxed habit.

Another complaint, which frequently occurred during the last dysenteric-season, was dry gripes, which in some cases rose to a very excruciating and dangerous height. It was always produced by an unusual sluggishness of the intestines, which occasioned a remora of the contents in the passage, until the bowels became overloaded by the accumulation of them. A middle aged healthy person was taken violently ill of this disorder. It was attended with a remarkable sluggishness of the pulse, insomuch that it did not beat seconds. His bowels yielded to the influence of a warming purgative electuary, and some glysters of the same nature,



ture, so well that for two days the quantity of his discharges was really surprizing. His pains, and the languidness of his pulse continued until the load was fully discharged : Whenever that was the case, nature, like an elastic bow, suddenly unbent, recoiled to the opposite extreme. His pain subsided, his pulse hurried all of a sudden from one extreme to another ; it grew remarkably quick and full, and he was in the delirium of a fever for two or three days more. Being perfectly recovered, but, contrary to his physician's advice, venturing abroad, and engaging in business which exposed him to cold too soon, he relapsed into some degree of his complaint again. By what degrees he recovered the second time, I had not access to know. This person, being a master glazier, it was afterwards foolishly reported that his disease was owing to the fumes of the lead ; but his disorder differed nothing from the case of many others at that time. I had access just then to be particularly acquainted with the case of another gentleman in a much more dangerous situation, from the same complaint, in so far as his disorder hung about him for many weeks, and he was not at last relieved but by a very extraordinary discharge of hard knotted stools, mixed with half-dissolved viscid stuff, all almost as black as tar.

The Dyfentery this last season differed in many respects from its appearance in the former season.

In the latter season greater numbers had it in that slight degree, which was attended with little fever and no danger. In many, who were seized with seemingly great violence, it was unexpectedly checked when there appeared all reason to apprehend it would have run out to a much greater length. It was not uncommon to find it complicated with agues, rheumatisms, &c. into the latter of which it frequently degenerated. In the former season the griping pains attending it were more confined to the lower belly. In the latter they were very ordinarily felt also in the back, along, as might be supposed, the windings of the rectum and colon; yet, after the dysenteric stools were, in a great measure, gone, and the disease over, these pains often remained, or assumed the appearance of a lumbago or sciatic, with pains striking down the thighs.

Last season the Dysentery seemed to be succeeded by a low petechial fever, which, however, did not spread at all so much as it seemed at first to threaten, for the winter was remarkably healthy. In one instance I saw the Dysentery and this fever fatally united. In the former season, tho' the same fever did appear sometimes, yet the malignant sore throat was much more epidemic the whole winter after the Dysentery. The succession of these diseases to the Dysentery seems to confirm the idea I have endeavoured to give of the



nature and cause of that epidemic, and to reflect some light upon the procatartic cause of them.

It is worth observing, that the more the season advances, and the later in the year it is, when persons are seized with this epidemic, the more chronic do the symptoms of it grow.

T H E E N D.













